

VARIABLE STIFFNESS ELECTROACTIVE POLYMER SYSTEMS

ABSTRACT OF THE DISCLOSURE

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The invention relates to systems that provide variable stiffness and/or variable damping using an electroactive polymer transducer. Systems described herein offer several techniques that provide variable and controlled stiffness and/or damping. A transducer may be implemented using open loop control, thereby providing simple systems that inactively deliver a desired stiffness and/or damping performance. Alternately, closed loop control techniques permit electroactive polymer transducer designs that actively adapt the stiffness and/or damping performance of a system. Further, transducers may be implemented in a device whose stiffness changes with deflection of the polymer.

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